

ATTACHMENT B Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1.-11. (Cancelled)

12. (New) A method for preparing a compound comprising a plurality of cucurbituril groups, the method comprising the steps of:

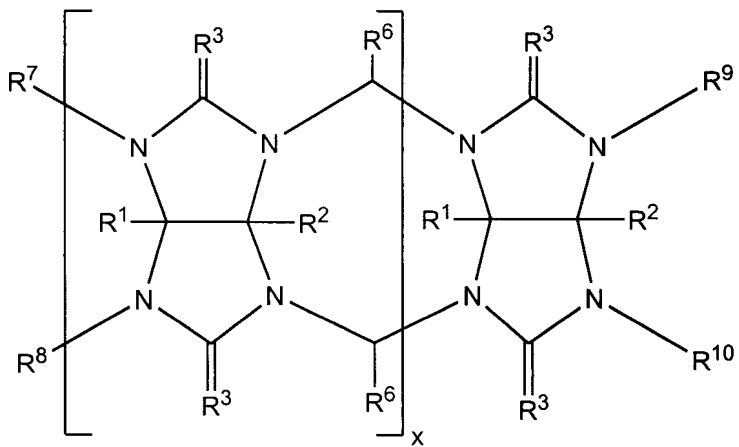
(a) forming a mixture comprising one or more compounds of the formula (1)



wherein:

L is a linking group; and

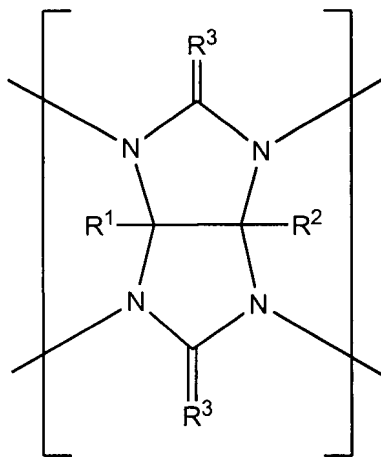
each A is independently selected and is a group of the formula (A)



(A)

wherein:

for each unit of the formula (B)



(B)

in formula (A),

R^1 and R^2 may be the same or different, and are each independently selected from a bond with L or

a univalent radical, or

R^1 , R^2 and the carbon atoms to which they are bound together form an optionally substituted cyclic group, or

R^1 of one unit of the formula (B) and R^2 of an adjacent unit of the formula (B) together form a bond or a divalent radical,

and

each R^3 is independently selected from the group consisting of $=O$, $=S$, $=NR'$, $=CXZ$, $=CZR'$, $=CXR''$ and $=CZ_2$, wherein Z is an electron withdrawing group, X is halo, and R' is selected from the group consisting of a bond with L, H, an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical, or an optionally substituted heterocyclyl radical, and R'' is a bond with L;

each R^6 is independently selected from the group consisting of a bond with L, H, alkyl and aryl;

R^7 and R^8 may be the same or different and are independently selected from the group consisting of H and $-\text{CHR}^6\text{OR}^6$, or R^7 and R^8 together form the group $-\text{CHR}^6\text{-O-CHR}^6-$, where each R^6 is independently selected from the group consisting of a bond with L, H, alkyl and aryl;

R^9 and R^{10} may be the same or different and are independently selected from the group consisting of H and $-\text{CHR}^6\text{OR}^6$, or R^9 and R^{10} together form the group $-\text{CHR}^6\text{-O-CHR}^6-$, where each R^6 is independently selected from the group consisting of a bond with L, H, alkyl and aryl; and

x is 0 or an integer from 1 to 10;

provided that at least one R^1 , R^2 or R^6 is a bond with L or at least one R^3 is $=\text{NR}''$, $=\text{CZR}''$ or $=\text{CXR}''$ where R'' is a bond with L; and
an acid; and

(b) exposing the mixture to conditions effective for at least some of the groups A to react to form cucurbituril groups, thereby forming a compound comprising a plurality of cucurbituril groups.

13. (New) A method according to claim 12, wherein step (b) comprises heating the mixture to a temperature from 20°C to 120°C.

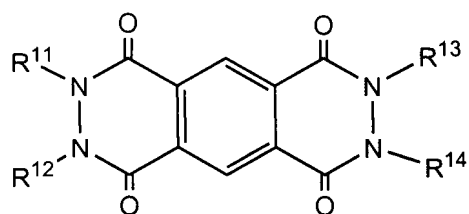
14. (New) A method according to claim 12, wherein step (b) comprises contacting the one or more compounds of the formula (1) with a compound that can form bridges between groups A, and heating the mixture to a temperature from 20°C to 120°C.

15. (New) A method according to claim 14, wherein the compound that can form bridges between groups A is selected from the group consisting of compounds of the

formula R^5COR^5 wherein each R^5 is independently selected from the group consisting of H, alkyl and aryl, compounds of the formula $R^5OC(R^5)_2OR^5$ wherein each R^5 is independently selected from the group consisting of H, alkyl and aryl, trioxane, optionally substituted 3,4-dihydropyran and optionally substituted 2,3-dihydrofuran.

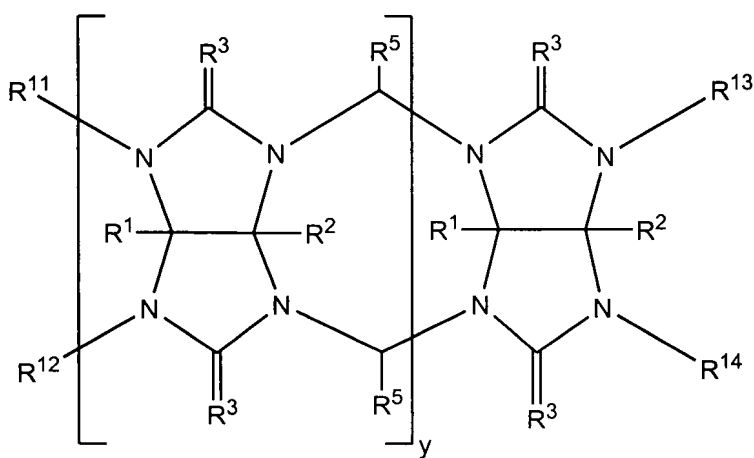
16. (New) A method according to claim 14, wherein the compound that can form bridges between groups A is formaldehyde.

17. (New) A method according to claim 12, wherein the mixture further comprises one or more compounds selected from compounds of the formula (6):



(6)

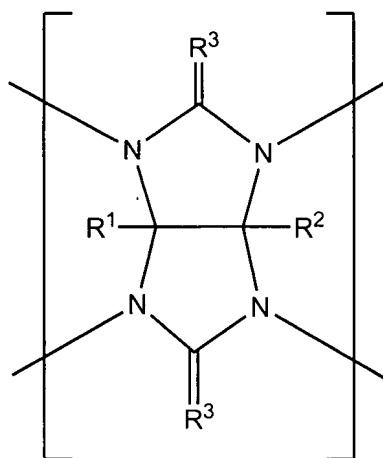
and compounds of the formula (2):



(2)

wherein:

for each unit of the formula (B):



(B)

in the compound of formula (2),

R¹ and R² may be the same or different, and

are each a univalent radical, or

R¹, R² and the carbon atoms to which they are bound together form an optionally substituted cyclic group, or

R¹ of one unit of the formula (B) and R² of an adjacent unit of the formula (B) together form a bond or a divalent radical,

and

each R³ is independently selected from the group consisting of =O, =S, =NR, =CXZ, =CRZ or =CZ₂, wherein Z is an electron withdrawing group, X is halo, and R is H, an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical, or an optionally substituted heterocyclyl radical;

each R⁵ in formula (2) is independently selected from the group consisting of H, alkyl and aryl;

R^{11} and R^{12} may be the same or different and are independently selected from the group consisting of H and $-\text{CHR}^5\text{OR}^5$, or R^{11} and R^{12} together form the group $-\text{CHR}^5\text{-O-CHR}^5-$, where each R^5 is independently selected and is as defined above,

R^{13} and R^{14} may be the same or different and are independently selected from the group consisting of H and $-\text{CHR}^5\text{OR}^5$, or R^{13} and R^{14} together form the group $-\text{CHR}^5\text{-O-CHR}^5-$, where each R^5 is independently selected and is as defined as above; and

y is 0 or an integer from 1 to 9;

and wherein at least some of the cucurbituril groups formed are formed from a group A of one molecule of the formula (1), a group A of at least one other molecule of the formula (1) and one or more molecules of formula (2) or (6).

18. (New) A method according to claim 17, wherein step (b) comprises heating the mixture to a temperature from 20°C to 120°C.

19. (New) A method according to claim 17, wherein step (b) comprises contacting the one or more compounds of the formula (1) with a compound that can form bridges between groups A, and between a group A and a compound of formula (2) or (6), and heating the mixture to a temperature from 20°C to 120°C.

20. (New) A method according to claim 19, wherein the compound that can form bridges between groups A, and between a group A and compound of formula (2) or (6), is selected from the group consisting of compounds of the formula $R^5\text{COR}^5$ wherein each R^5 is independently selected from the group consisting of H, alkyl and aryl, compounds of the formula $R^5\text{OC(R}^5)_2\text{OR}^5$ wherein each R^5 is independently selected from the group consisting of H, alkyl and aryl, trioxane, optionally substituted 3,4-dihydropyran and optionally substituted 2,3-dihydrofuran.

21. (New) A method according to claim 19 wherein the compound that can form bridges between groups A, and between a group A and compound of formula (2) or (6), is formaldehyde.
22. (New) A method according to claim 12, wherein R^3 is O and R^6 is H.
23. (New) A method according to claim 12 wherein L is a polymer.
24. (New) A method according to claim 12 wherein L is a group of the formula $-(CR_2)_a-(E-(CR_2)_b)_c(CR_2)_d-$ or $-(CR_2)_a-(E-(CR=CR)_b)_c(CR_2)_d-$ wherein:
 E is $-O-$, $-NR-$, $-S-$, a saturated or unsaturated divalent hydrocarbon radical, or an optionally substituted aliphatic or aromatic divalent heterocyclyl radical;
 R is H, an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical or an optionally substituted heterocyclyl radical; and
 a, b, c and d are each 0 or an integer from 1 to 30;
 provided that not all of a, b, c and d are 0.
25. (New) A method according to claim 12 wherein L is $-(CH_2)_n-$, $-(CH=CH)_n-$, $-O-$, $-NH-$,
 $-CH_2-NH-$, $-CH(CH_3)(CH_2)_nCH(CH_3)-$ or
 $-(CH_2)_n-N(CH_3)CH_2CH_2N(CH_3)-(CH_2)_p-$,
 where n and p are an integer.
26. (New) A compound comprising a plurality of cucurbituril groups produced by the method of claim 12.